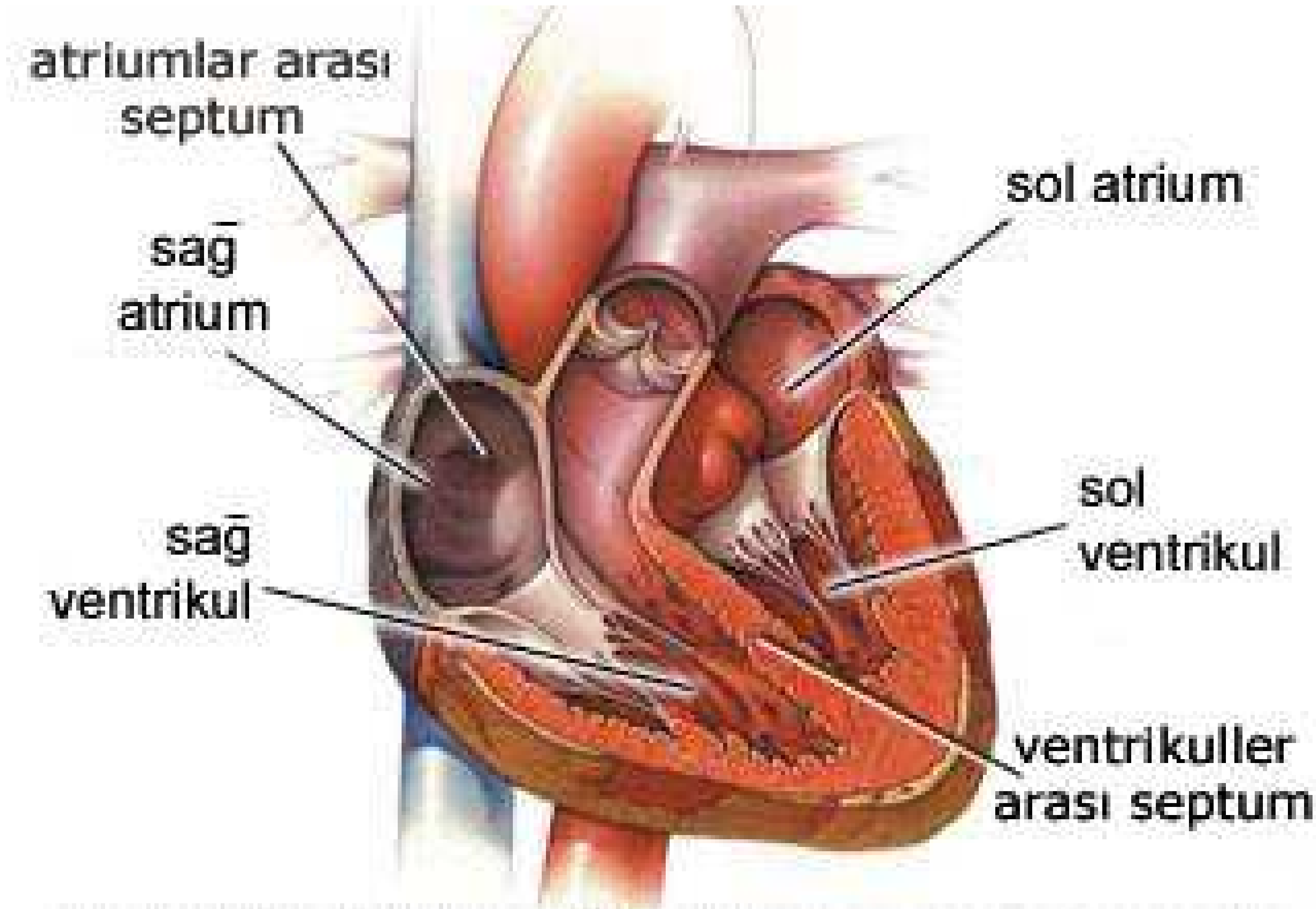
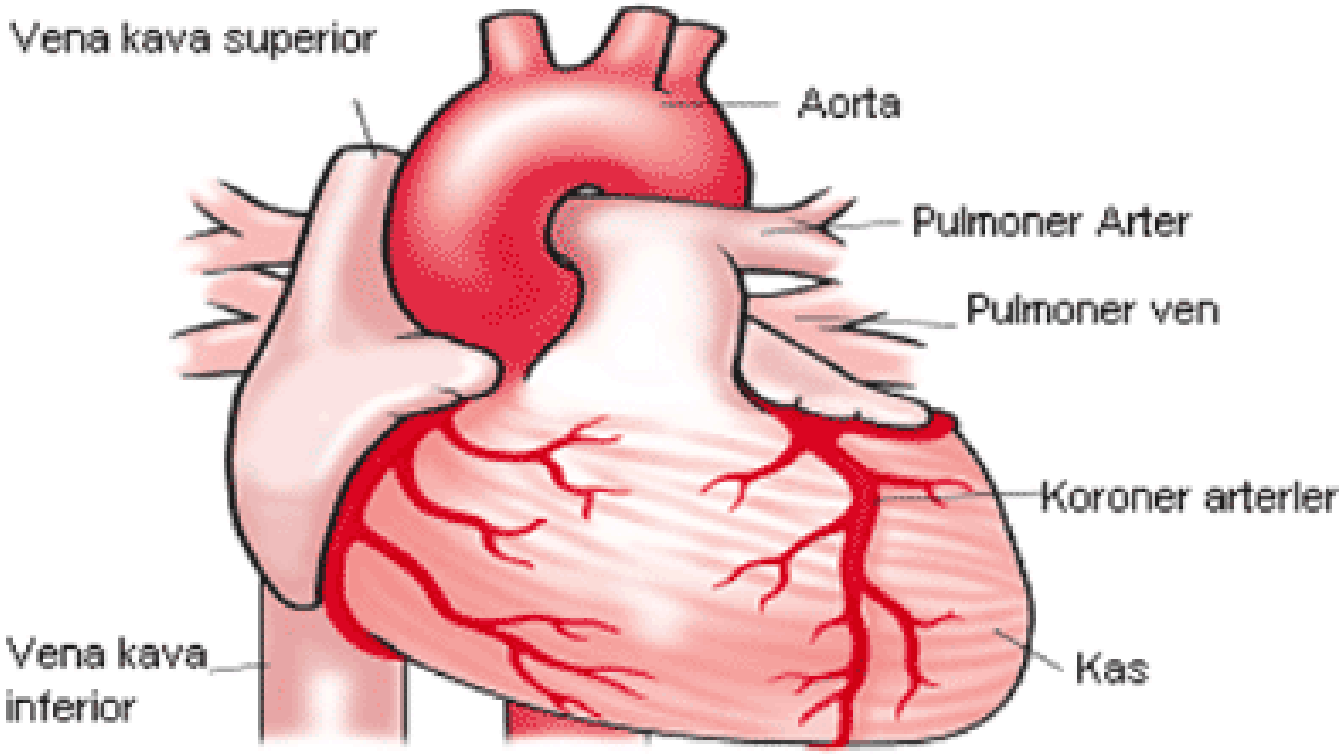
# DOLAŞIM SİSTEMİ FİZYOLOJİSİ

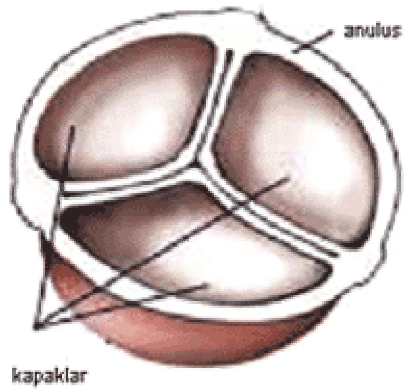
# KALP

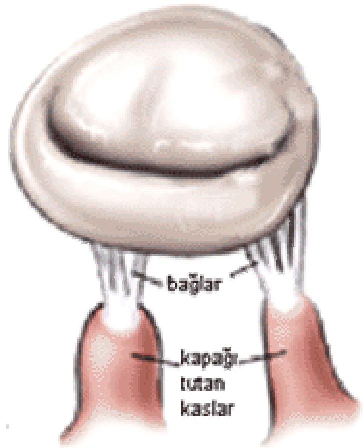

atriumlar arası septum
sağ atrium
sağ ventrikul
sol atrium
sol ventrikul
ventrikuller arası septum

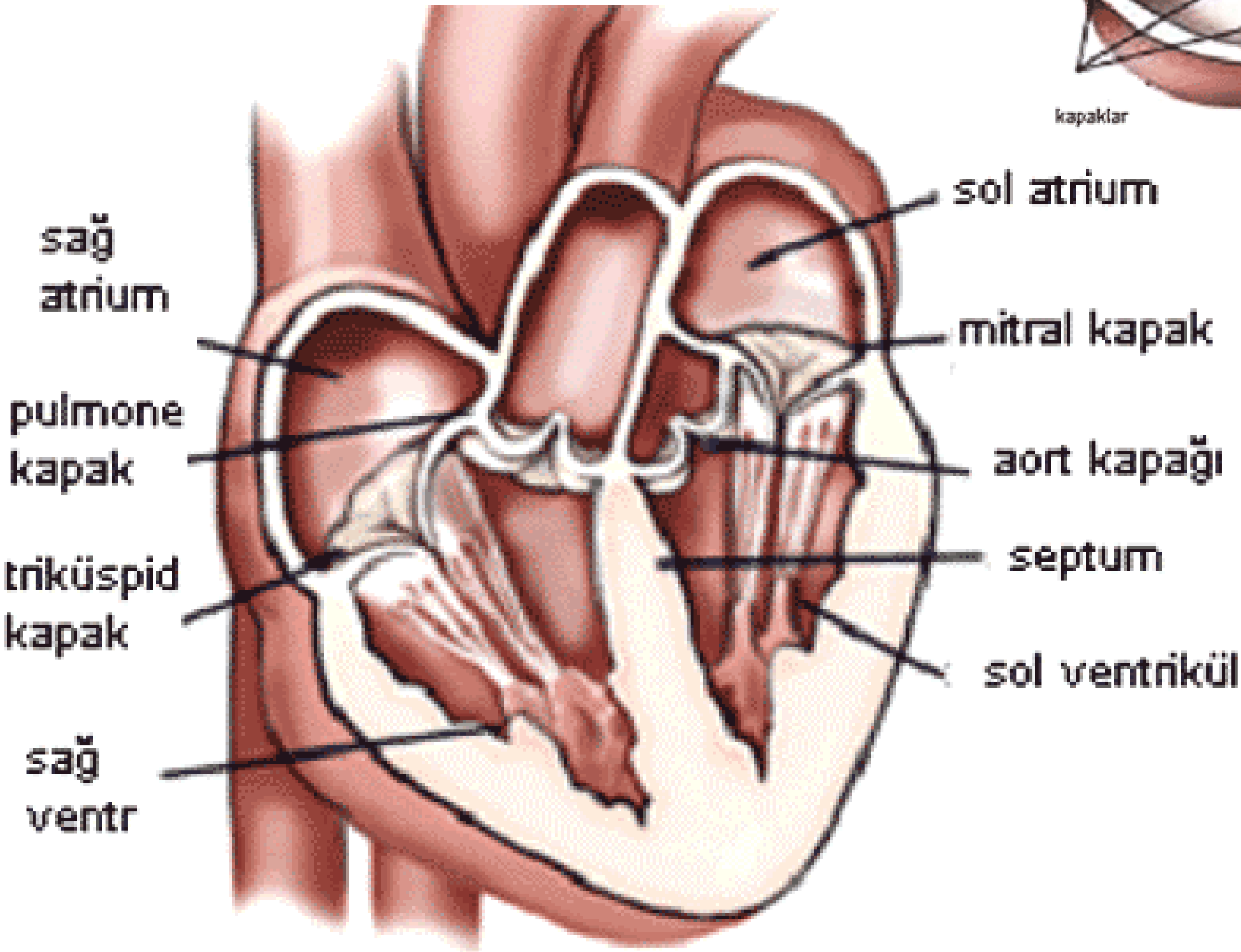
- SİSTOL+DİYASTOL→KALP DÖNEMİ



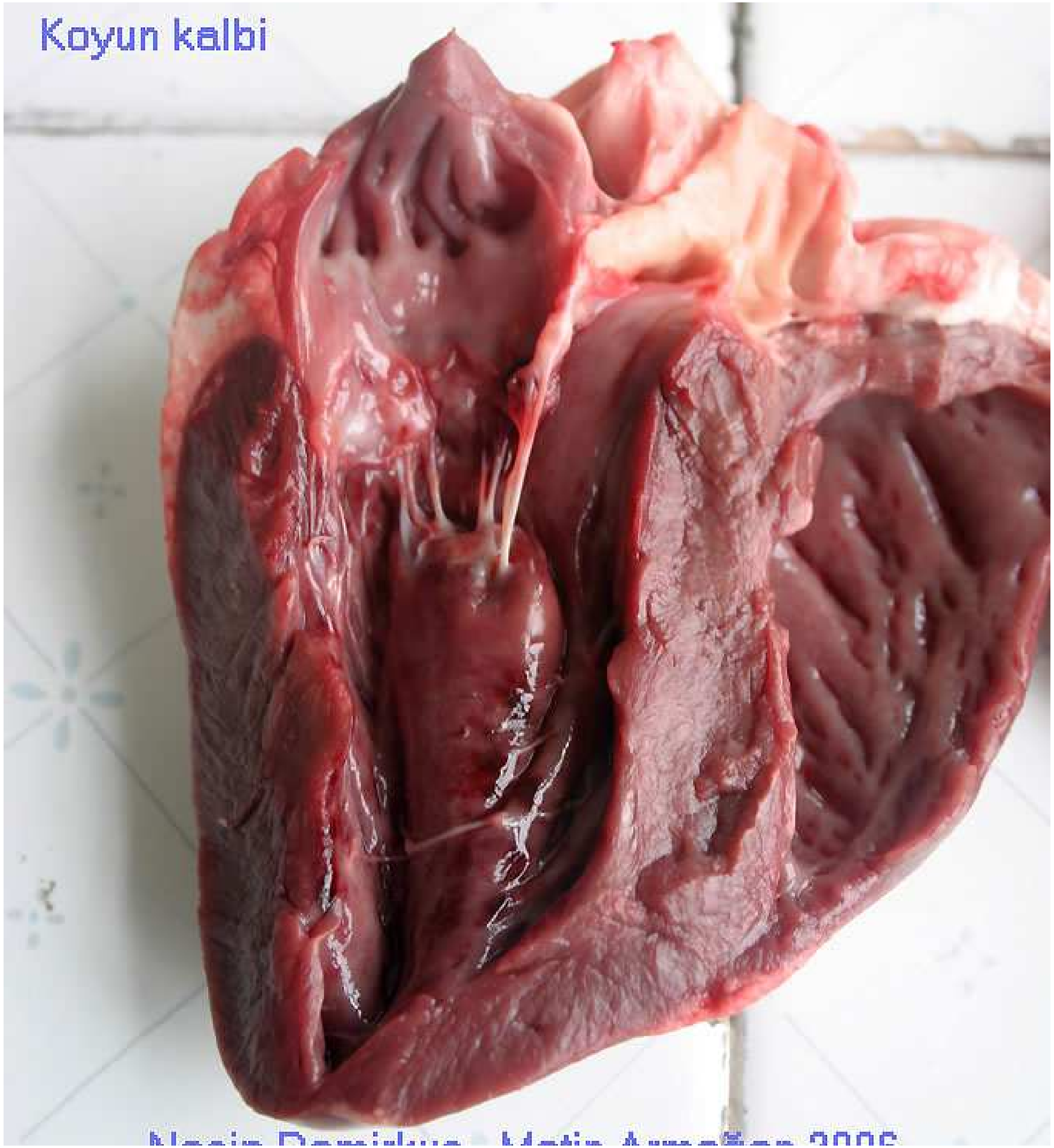
# Korda tendine

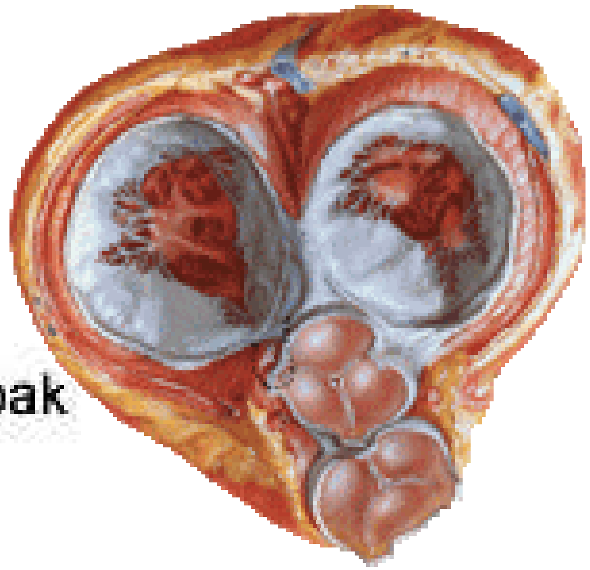


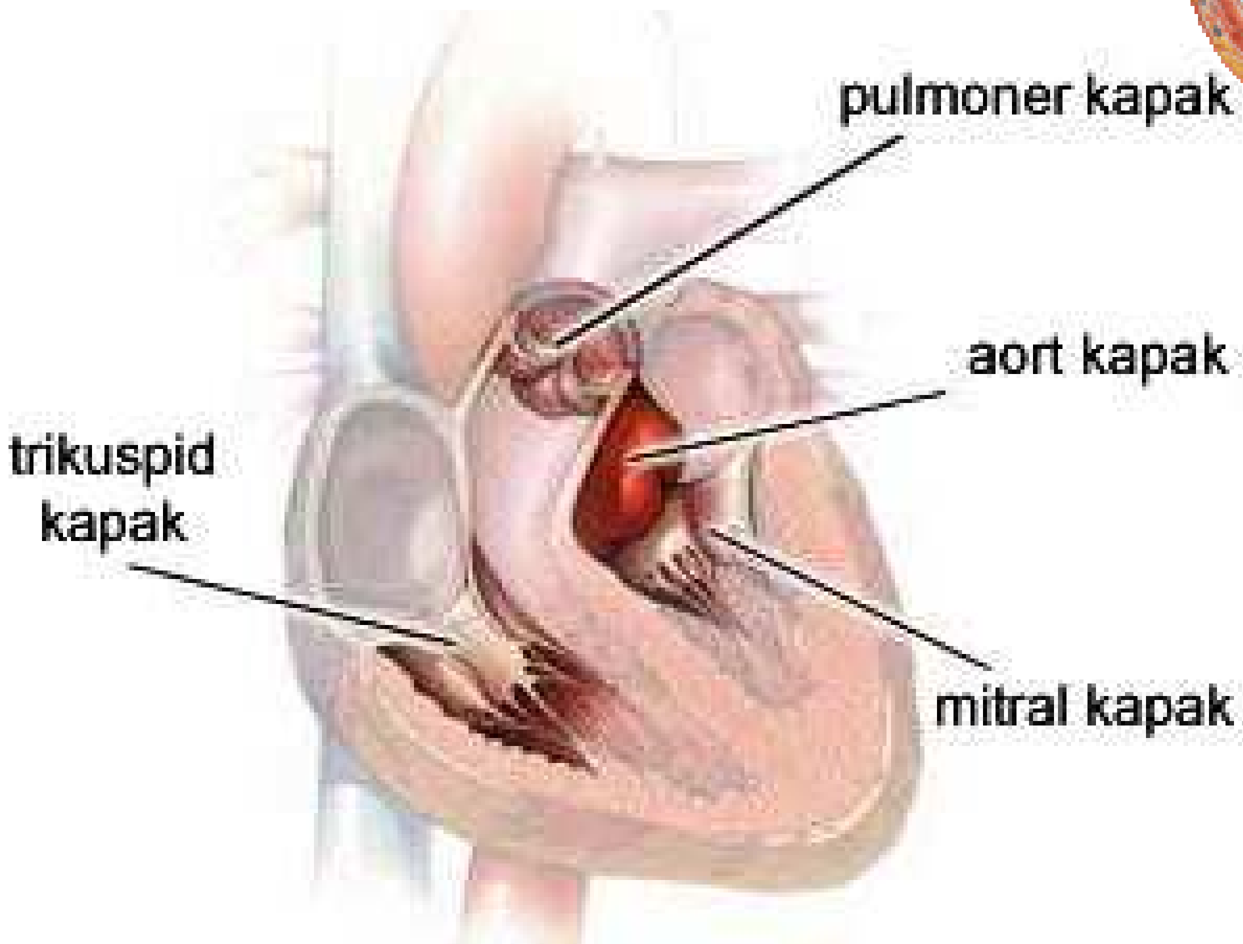



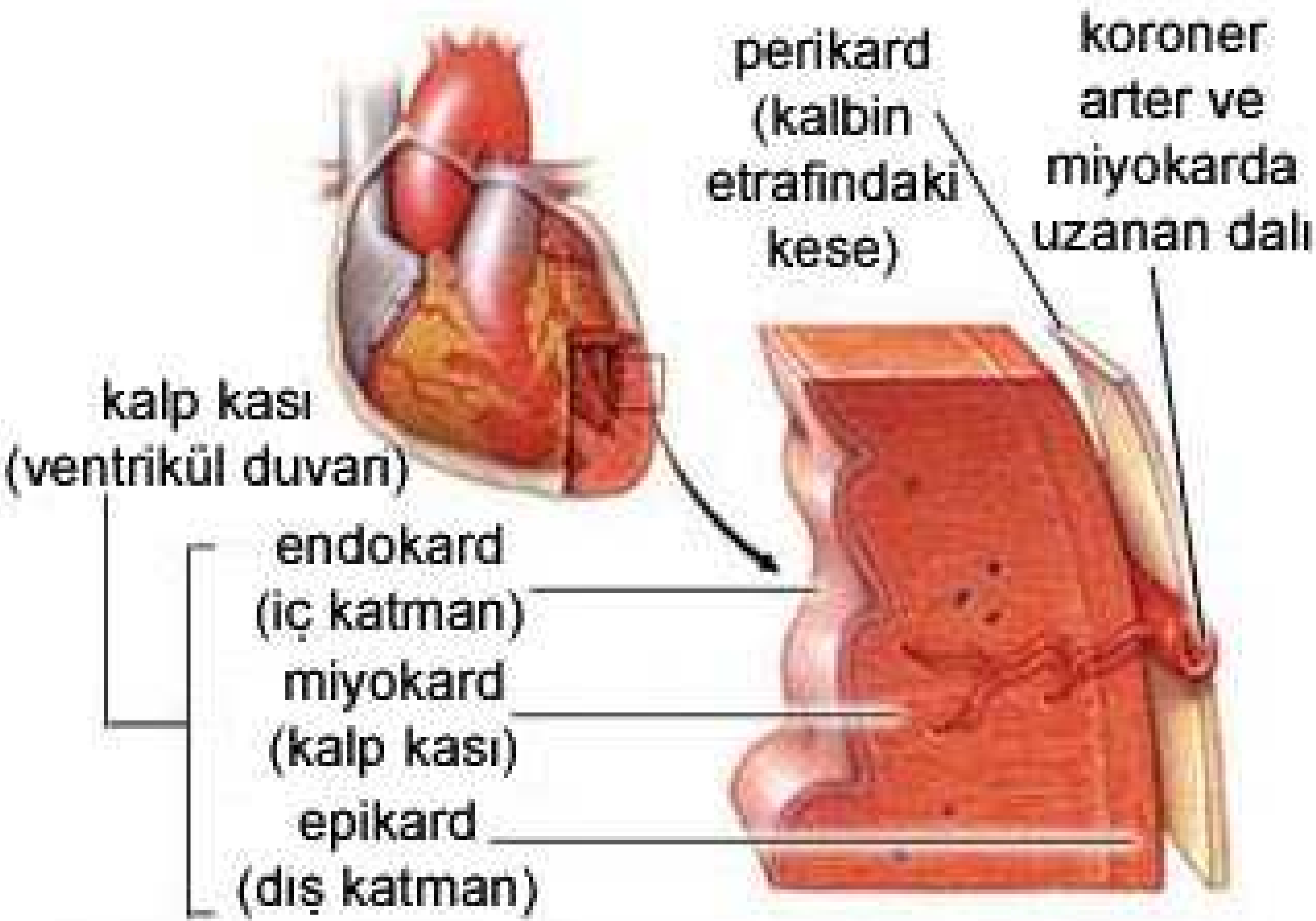



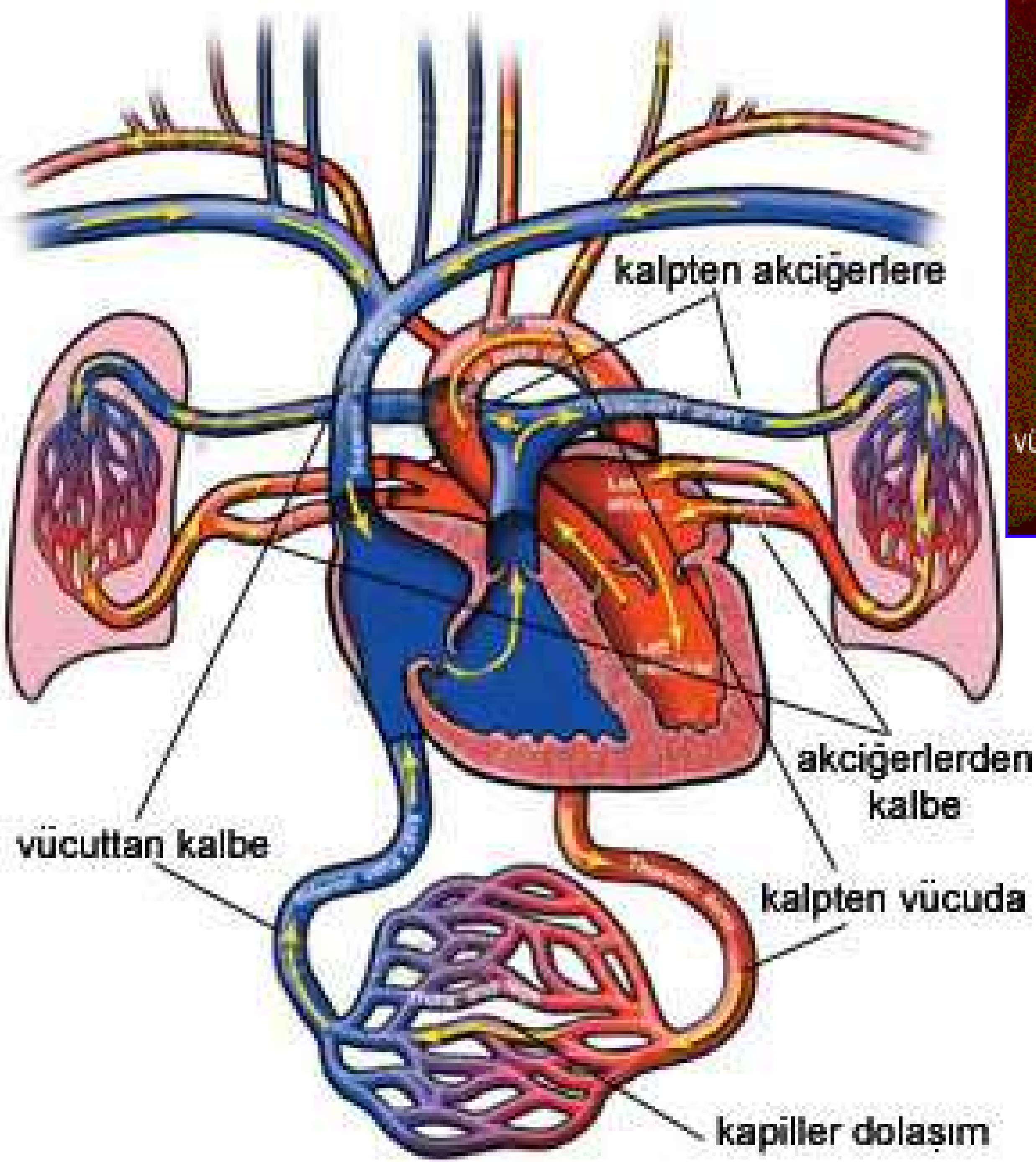

kalp kapakçıkları
açık
kapalı
tendonlar
gevşek
sıkı
kaslar
gevşek
kasılmış
(a) kapakçık açık
(b) kapakçık kapalı

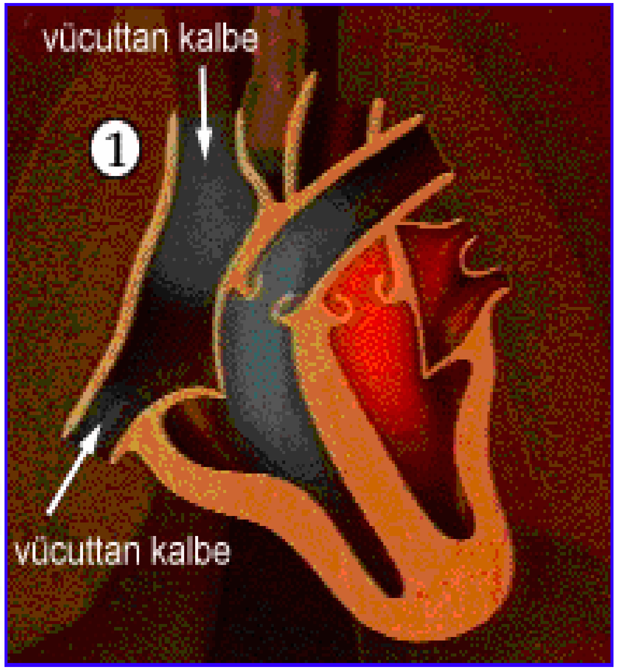

Koyun kalbi

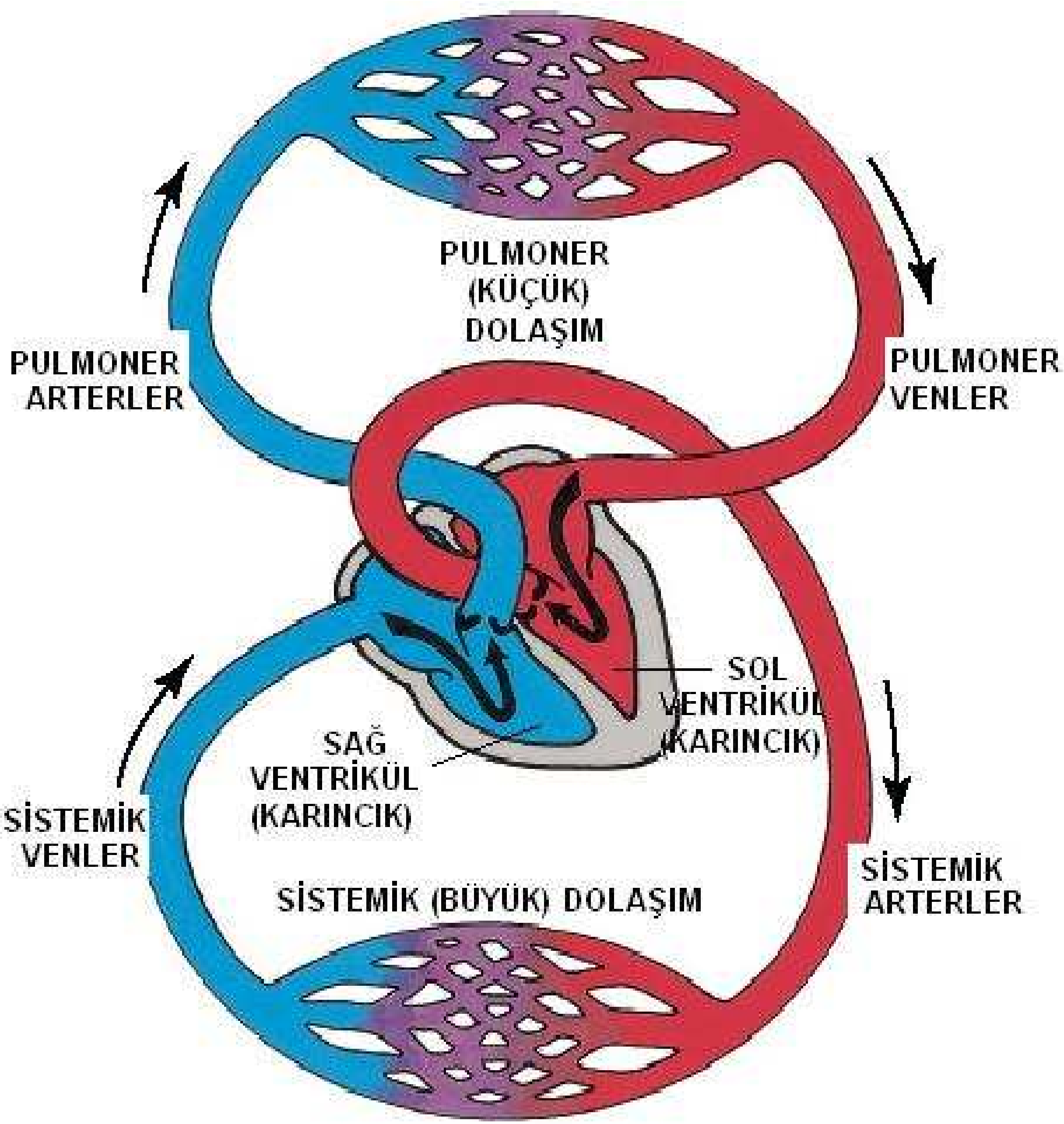



pulmoner kapak
aort kapak
trikuspid
kapak
mitral kapak

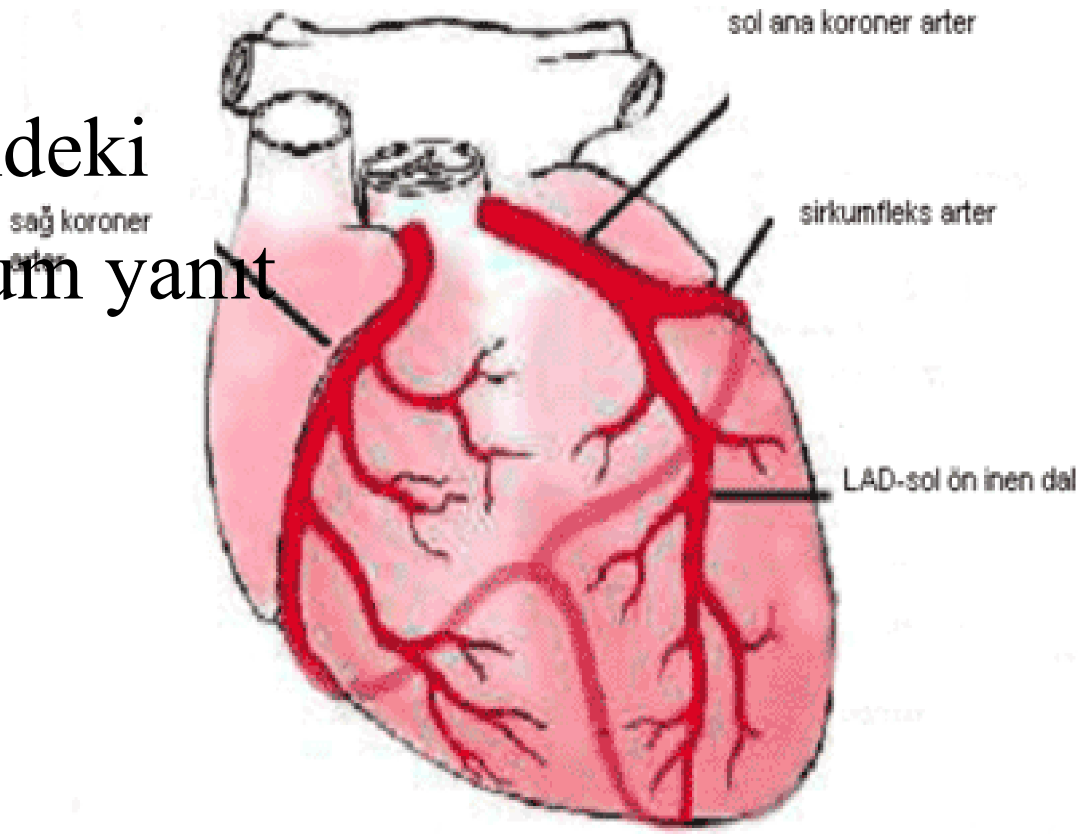

perikard (kalbin etrafındaki kese)
koroner arter ve miyokarda uzanan dalı
kalp kası (ventrikül duvarı)
endokard (iç katman)
miyokard (kalp kası)
epikard (dış katman)


kalpten akciğerlere
akciğerlerden kalbe
vücuttan kalbe
kalpten vücuda
kapiller dolaşım

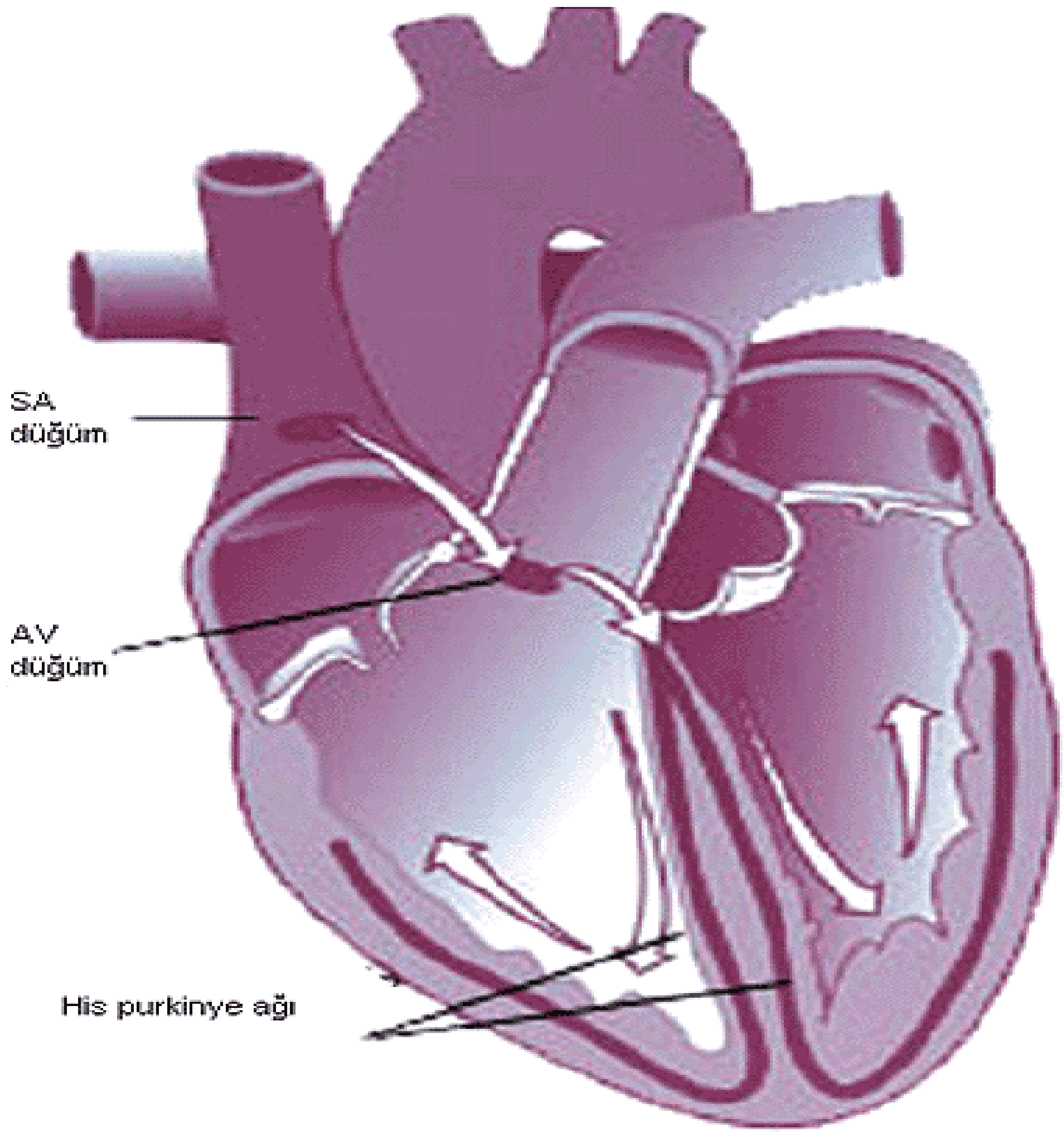

vücuttan kalbe
1
vücuttan kalbe

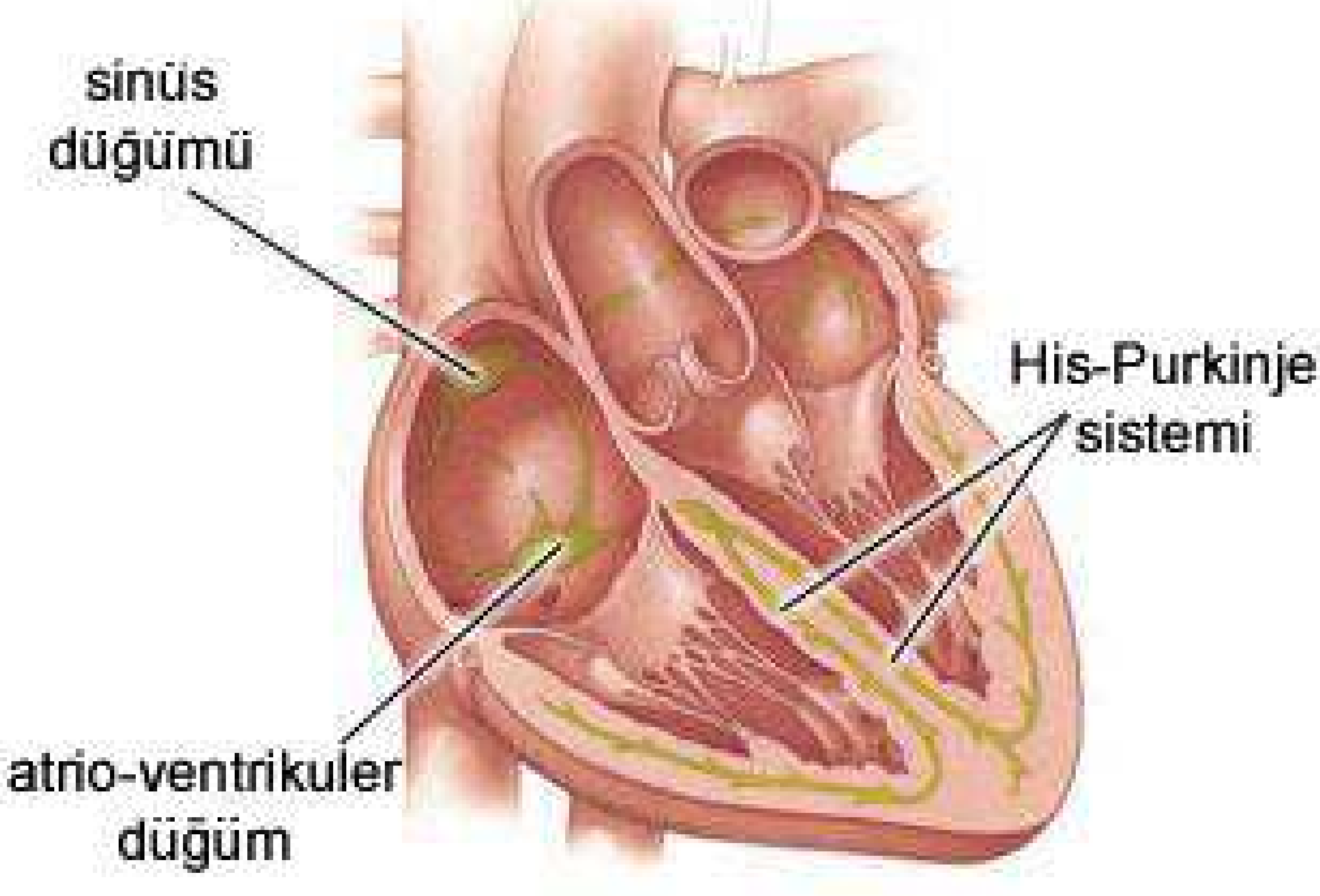

PULMONER
(KÜÇÜK)
DOLAŞIM
PULMONER
ARTERLER
PULMONER
VENLER
SOL
VENTRİKÜL
(KARINCIK)
SAĞ
VENTRİKÜL
(KARINCIK)
SİSTEMİK
VENLER
SİSTEMİK
ARTERLER
SİSTEMİK (BÜYÜK) DOLAŞIM

- Hep-hiç yasası
- Eşik değer ve üzerindeki
- Uyaranlara maksimum yanıt



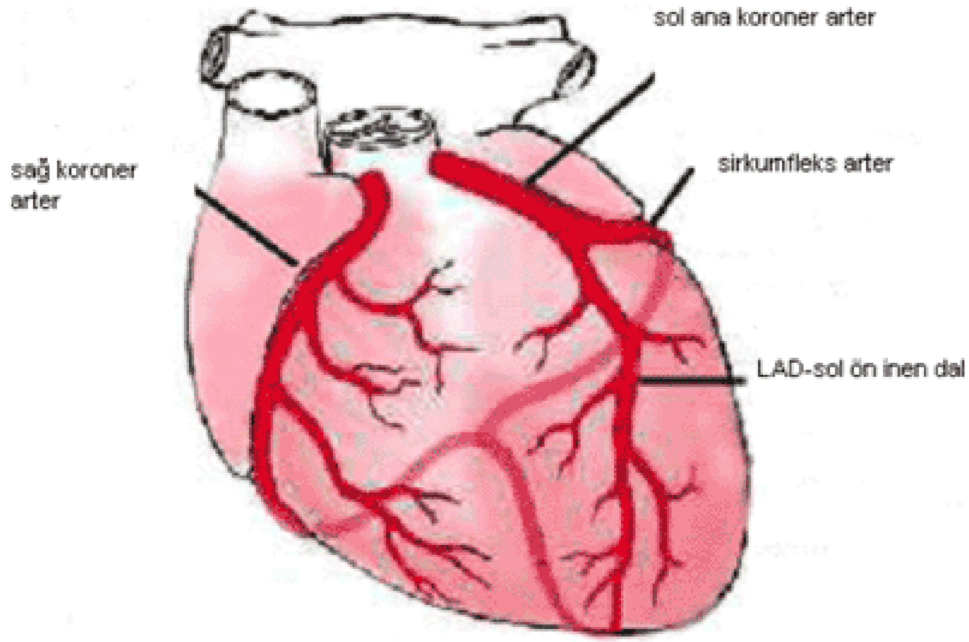
# Kalbin ileti sistemi

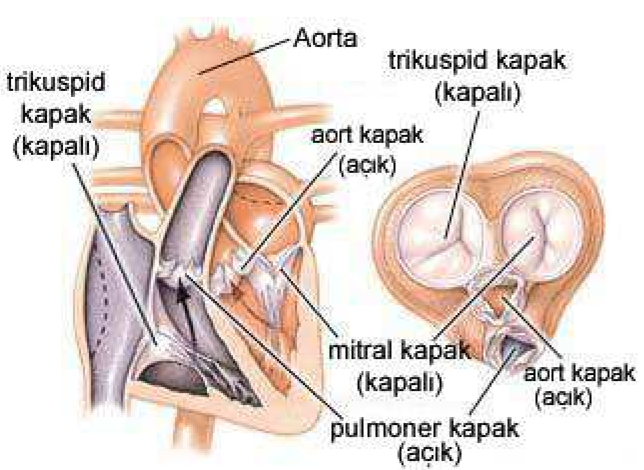



sinüs
düğümü
His-Purkinje
sistemi
atrio-ventrikuler
düğüm

# Kalp dönemi

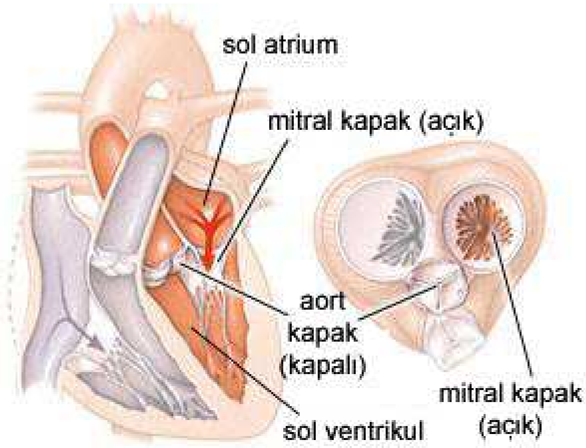
- 0.8 sn
- 0,5 sn-diyastol
- 0,3 sn sistol












KALP DÖNEMİ

1- Ventriküllerin dolması

2- Atrium sistolü

3- Ventriküllerin izometrik kasılması

4- Fırlatma fazı-SOL VENT.80mmHg
SAĞ VENT.8mmHg

5- İzometrik gevşeme-VENTRİKÜLLERİN GEVŞEMESİ

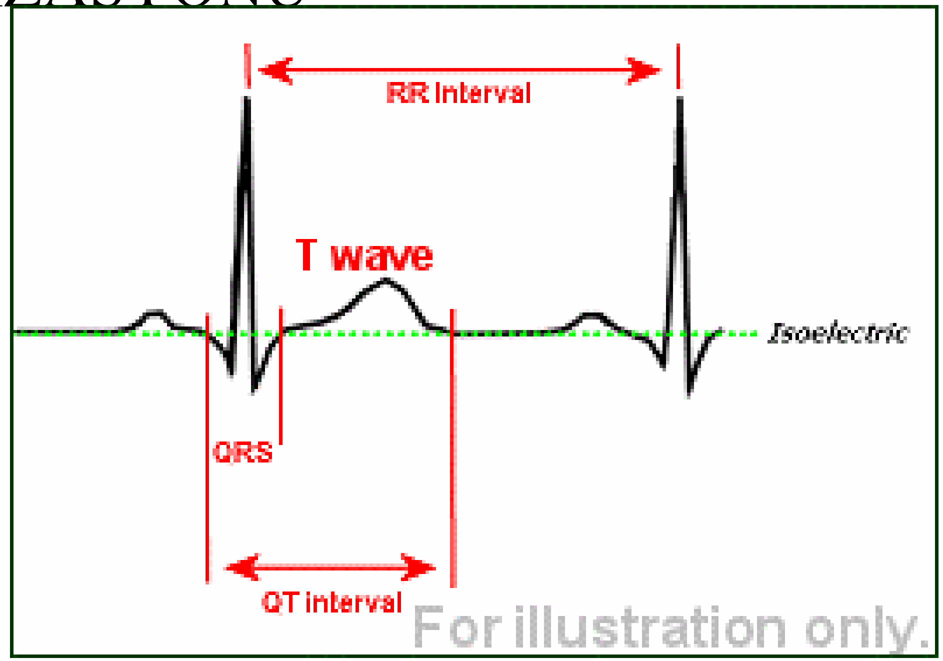
# Otonom sinir sistemi

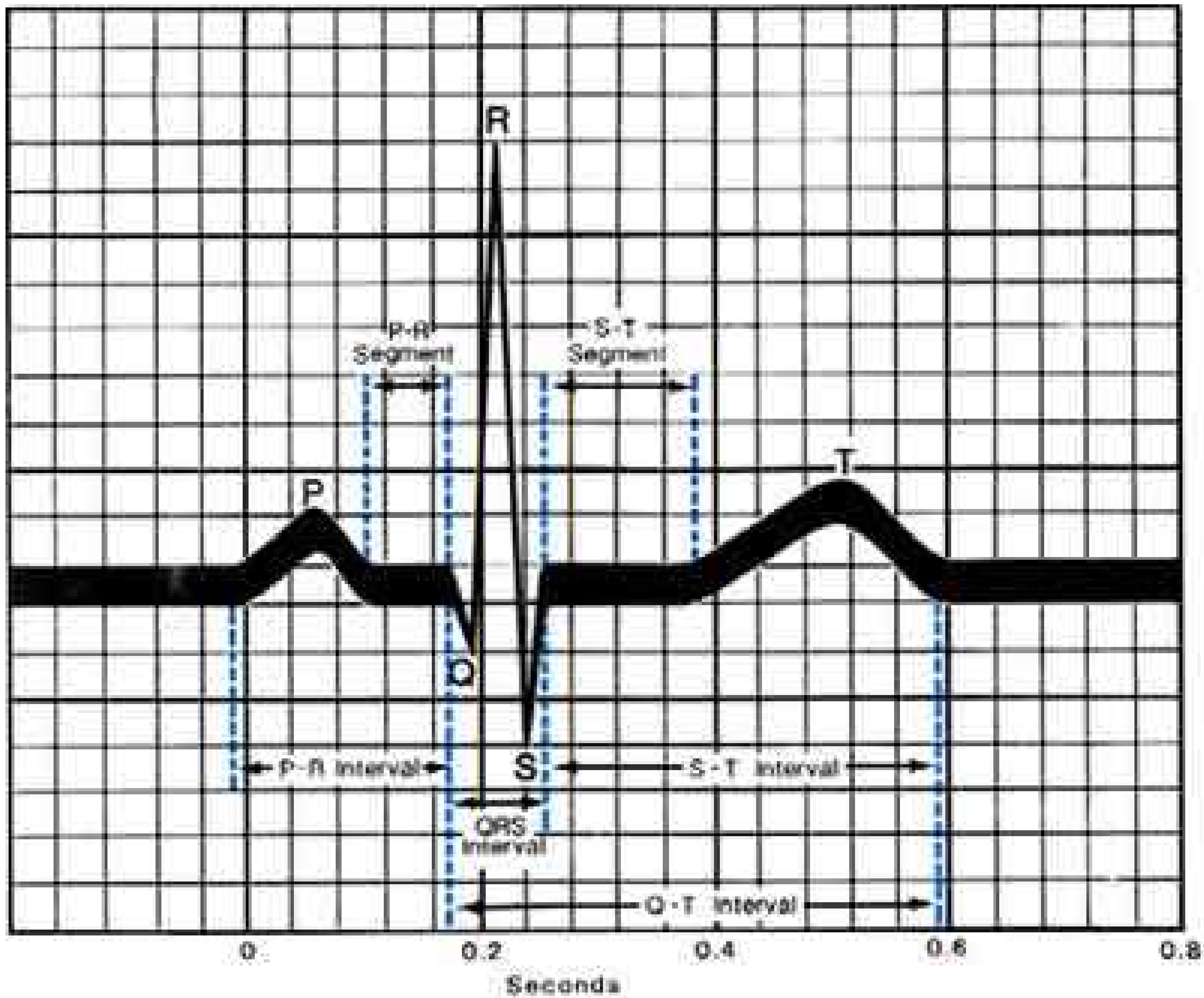
- Vagus siniri
- Dk da 170 üstü tehlikeli, kalp beslenemez.

# EKG

- AKSİYON POTANSİYELİ

- P, SİNOATRİYAL DÜĞ.DEN ATRİYUMLARA GEÇİŞ
- P-R, P DALGA BAŞLANGICI-QRS DALGA BAŞLANGICI
- QRS, VENTRİKÜLLER DEPOLARİZE OLUR
- T, VENTRİKÜL REPOLARİZASYONU




R
P-R
Segment
S-T
Segment
P
T
Q
S
P-R interval
S-T interval
QRS
interval
Q-T interval
0
0.2
0.4
0.6
0.8
Seconds

# KALP RİTMİ

- Dk-60-80 (60-100)

- TAŞİKARDİ-100 üstü
- BRADİKARDİ-60 altı

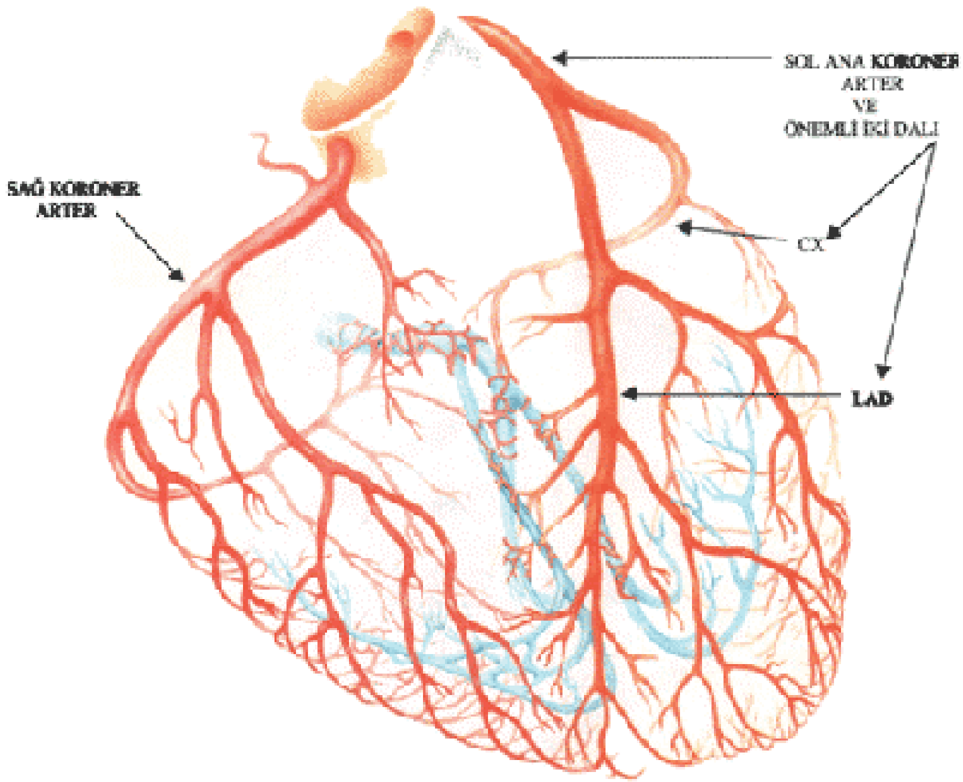
- ARİTMİ-kalp ritmindeki anormal değş.
- SİNOATRİYAL BLOK-SA düğ.den çıkan uyarı diğer bölg. uyaramaz
- ATRİYOVENTRİKÜLER BLOK-parsiyel-tam blok-atrium-vent ileti gecikir &2 side aynı ritmde kasılır
- PAROKSİSMAL TAŞİKARDİ-ani nöbet 200-300 kalp frekansı
- ATRİYUM FİBRİLASYONU-titreşme-atrium büyür
- VENTRİKÜL FİBRİLASYONU-vent. Kan birikir-ölüm(3-5 dk)
- EKTOPİK KALP VURUMLARI-iskemi kalsifiye plakl.uyarının sinüs düğ.den başka yerde çıkması

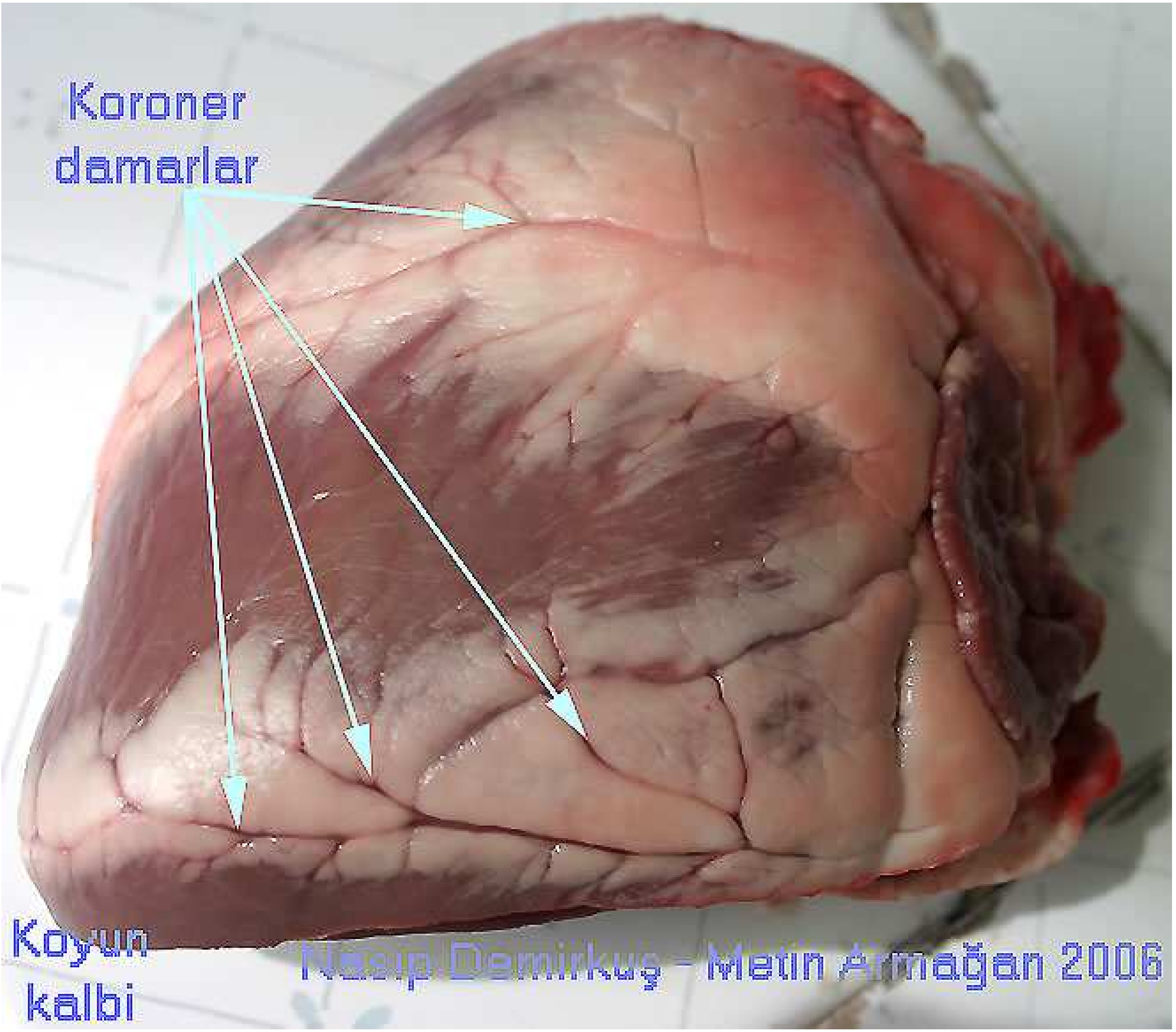
# KALP MASAJI

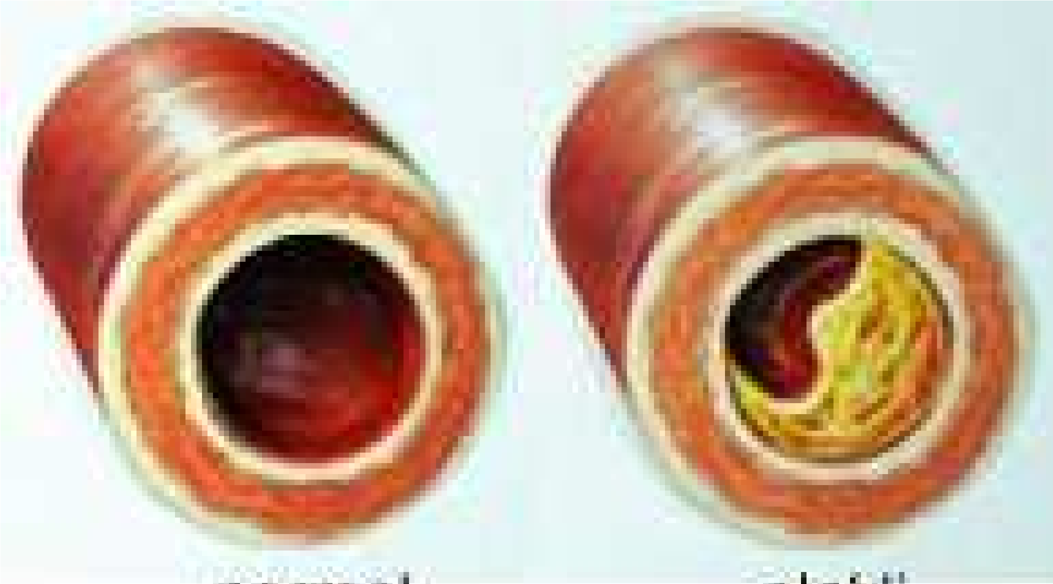
- Kalp durması ve fibrilasyonda.
- Ksifoid çıkıntı üstüne 4-5 santim omurgaya doğrı –P-
- Dk da 60 kez
- Solunum dk da 12-15 kez

# KORONER DOLAŞIM

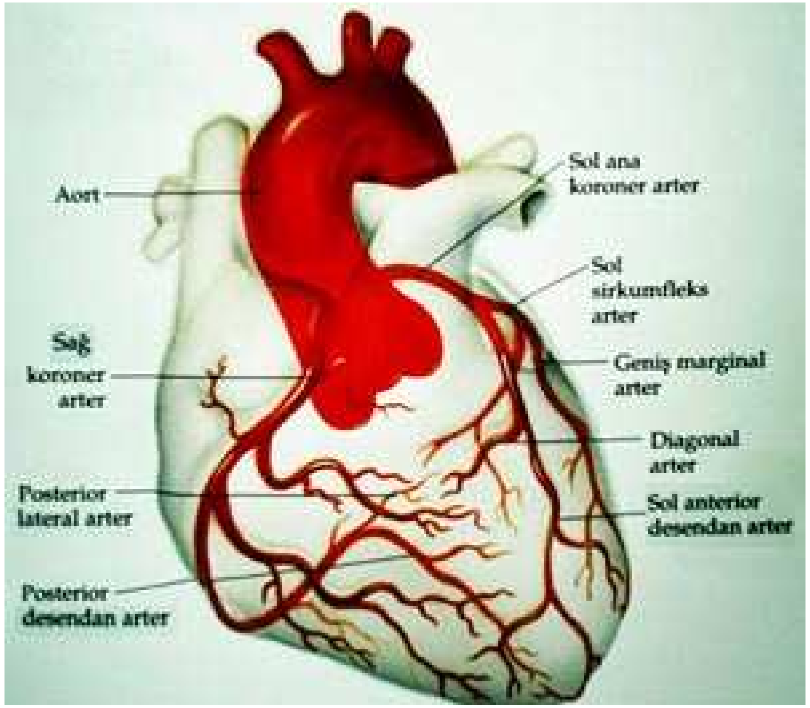
- Aortun dalları




Koroner
damarlar
Koyun
kalbi
Nasip Demirkuş - Metin Armağan 2006



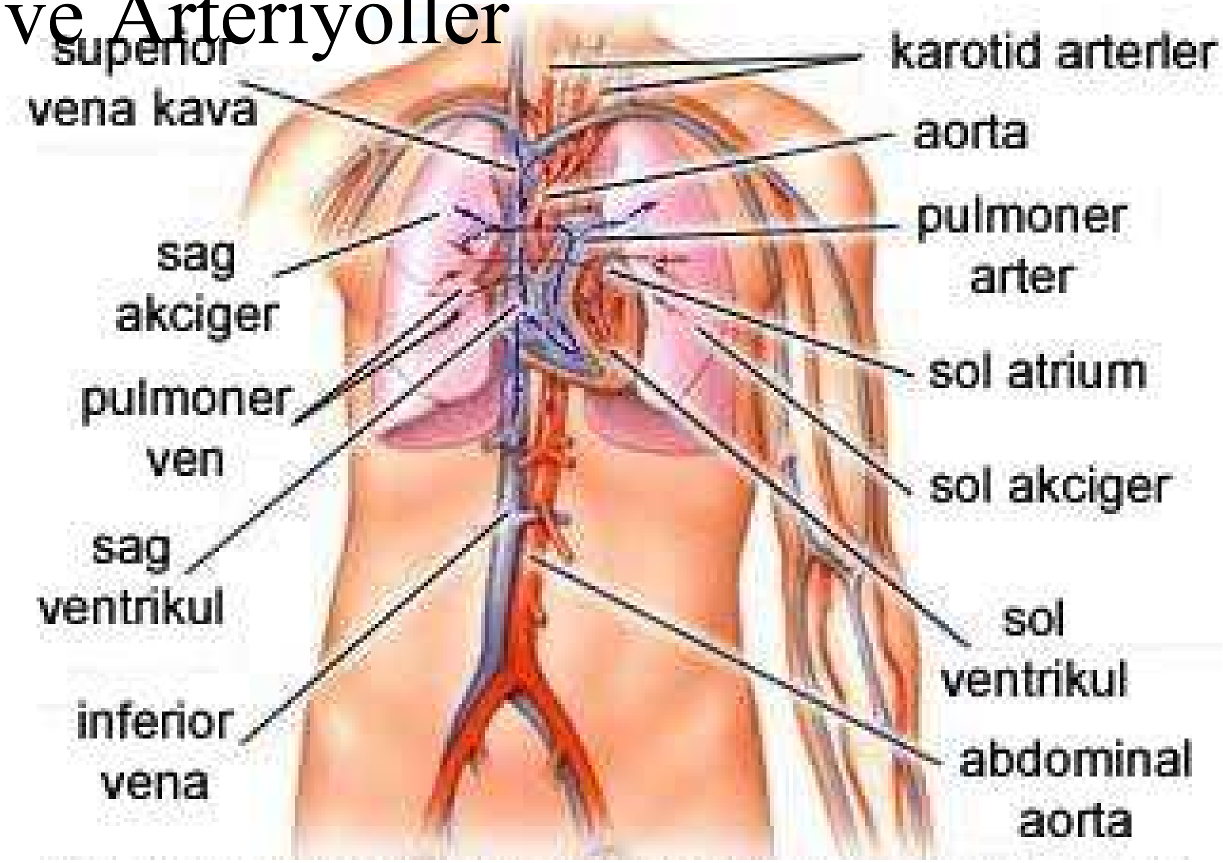
normal koroner arter      plakli koroner arter



# KALP DEBİSİ (DK. HACMİ)

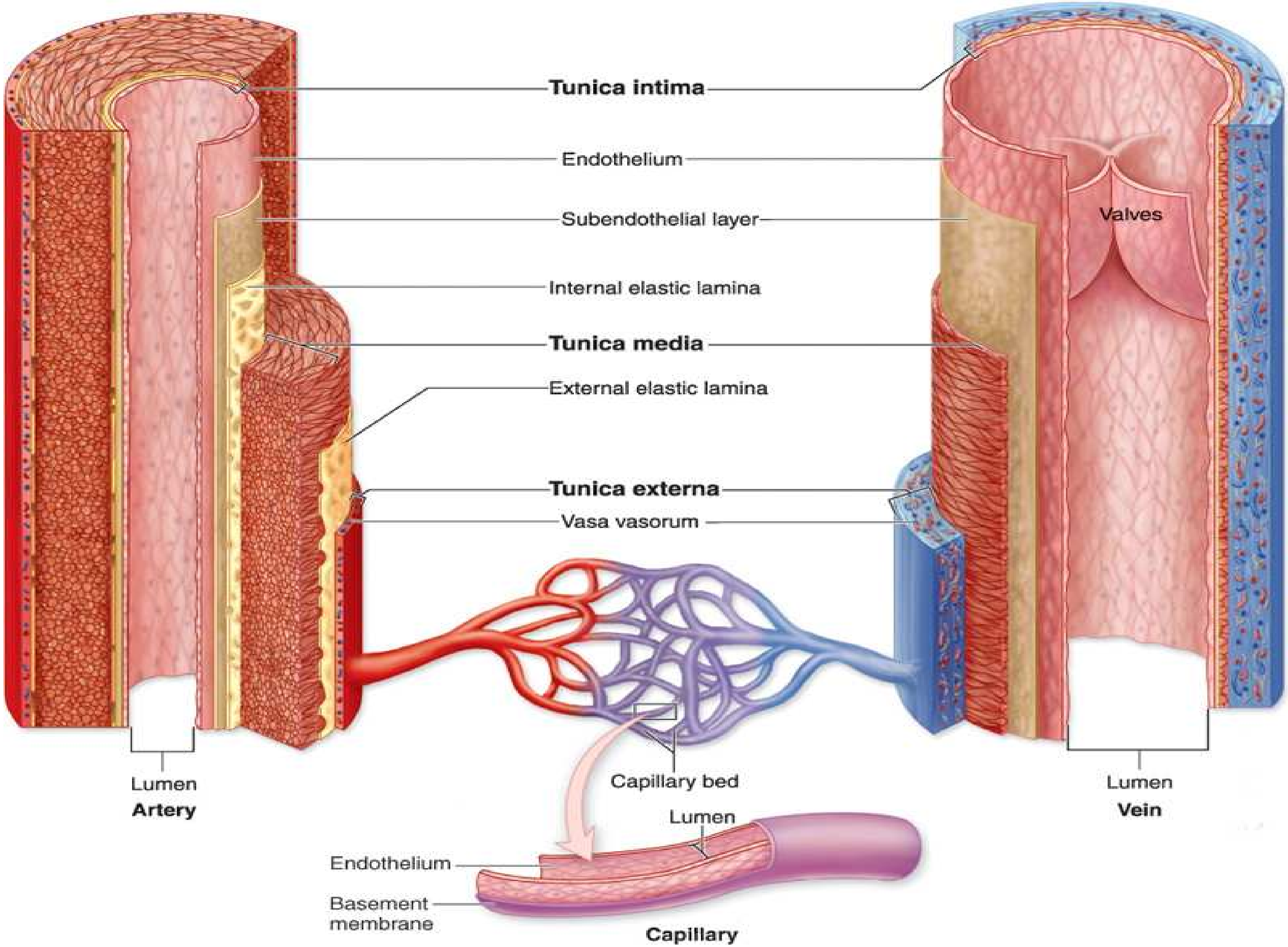
- HER VURUMDA 70 ML KAN POMPALANIR
- DK DA 5 LT KAN POMP.

- AORT ve Büyük Arterler
- Küçük Arter ve Arteriyoller



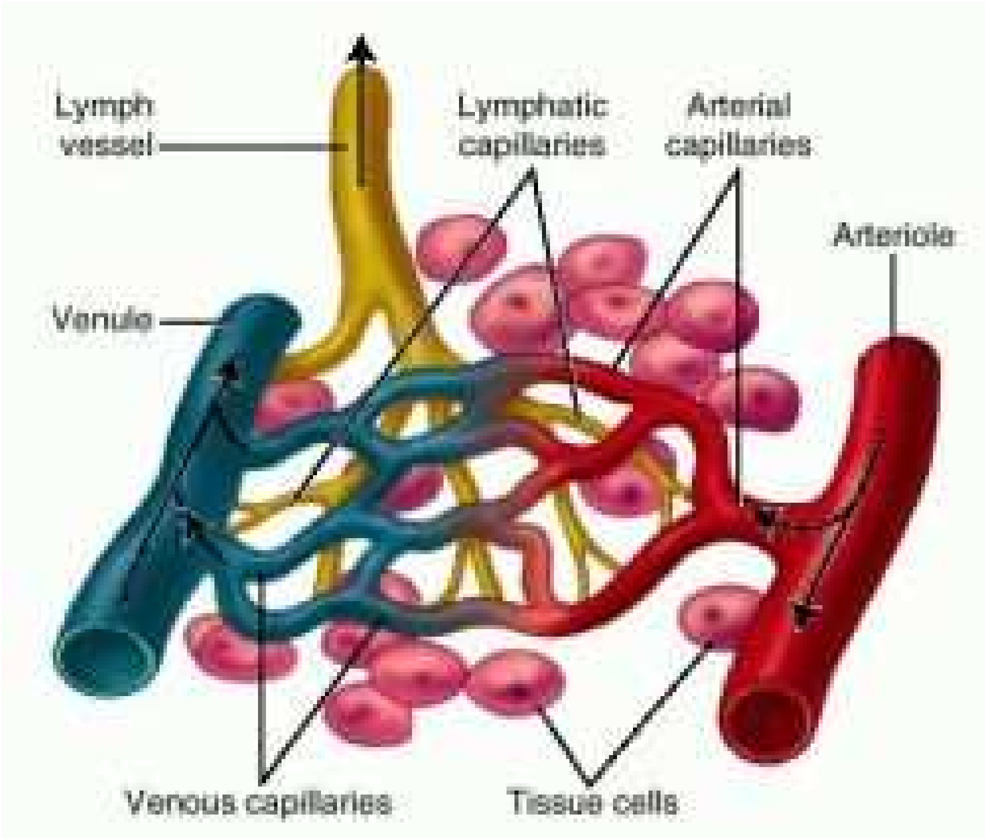
- Venler ve venüller





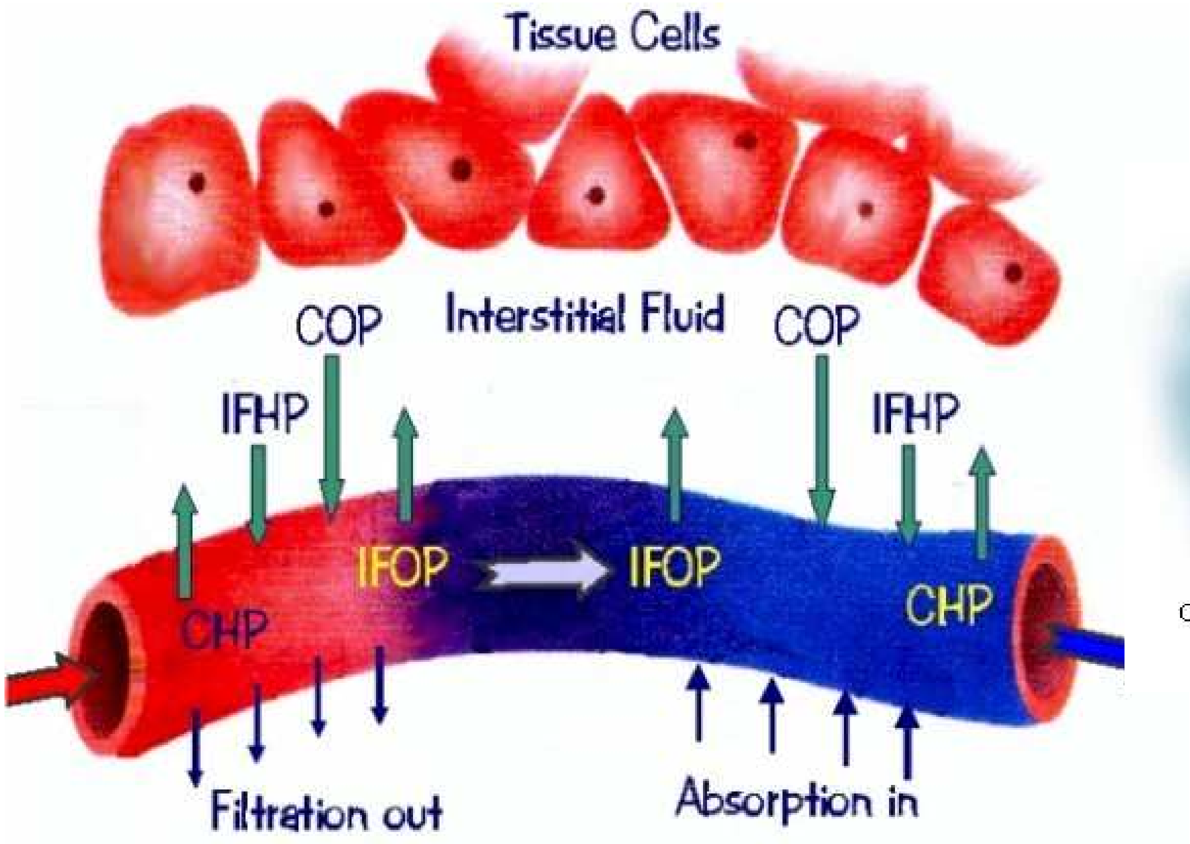


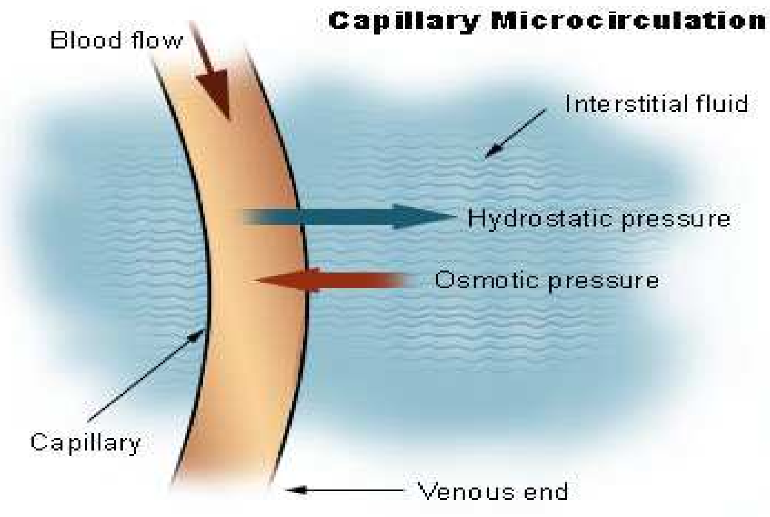
# Kapillerler

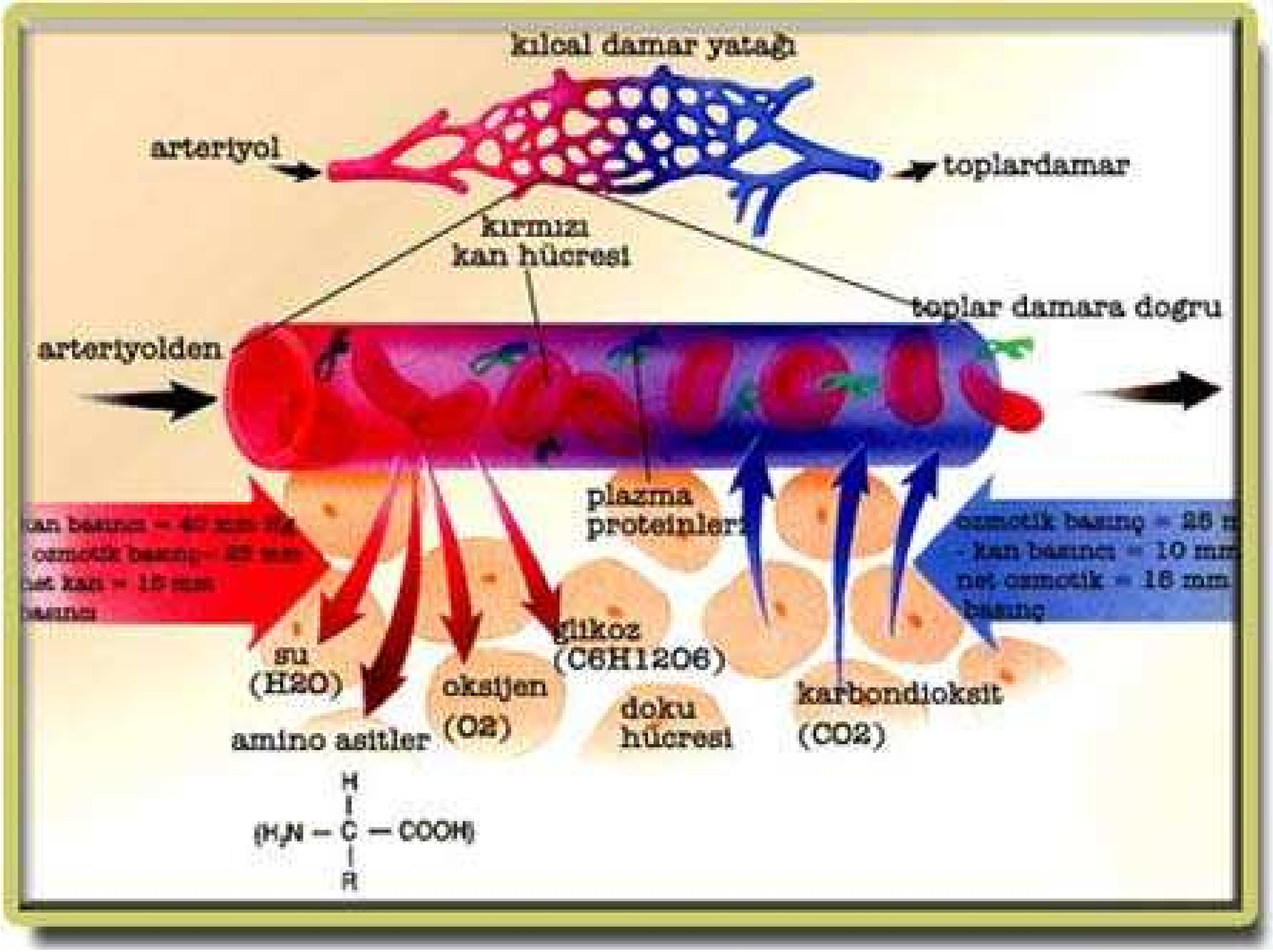


# Starling eşitliği

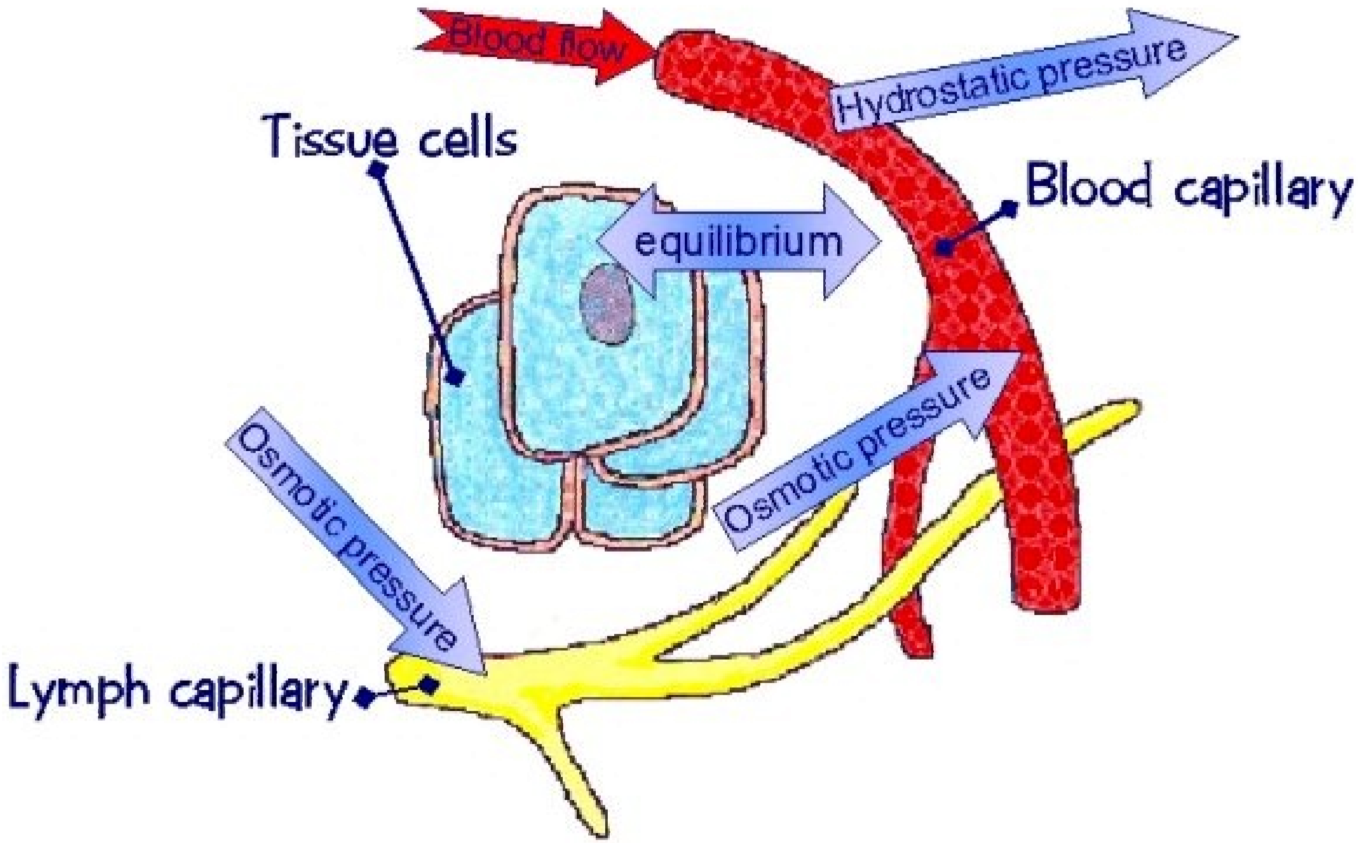
- **Kapiller arter ucundan çıkan sıvı=venöz uçtan dolaşıma dönen sıvı**
- **0,3 mmHg farkla filtrasyon (lenfatiklerle fazla filtrasyon dolaşıma geri döner)**




kılcal damar yatağı
arteriyol
toplardamar
kırmızı kan hücresi
toplar damara doğru
arteriyolden
plazma proteinleri
- kan basıncı = 10 mm
basınç
su (H2O)
amino asitler
oksijen (O2)
glikoz (C6H12O6)
doku hücresi
karbondioksit (CO2)
(H₂N — C — COOH)
H
R

# Lenf kapillerleri



# Kan basıncı (tansiyon)

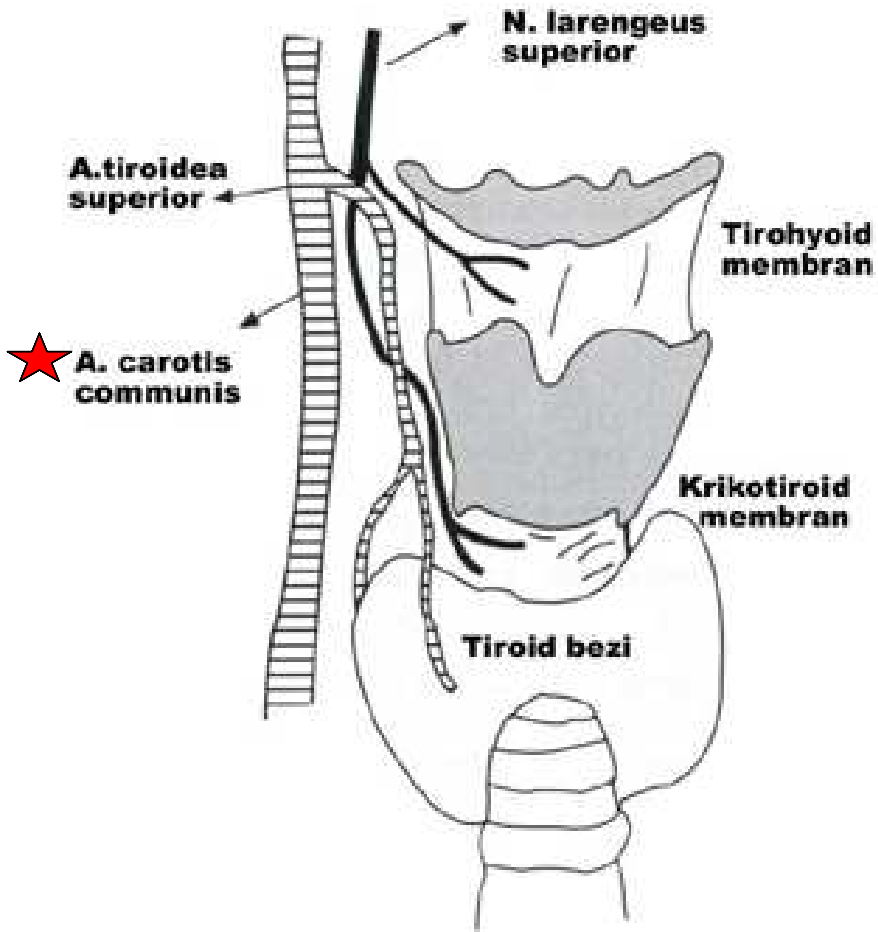
- Sistolik basınç-100-120 mmHg

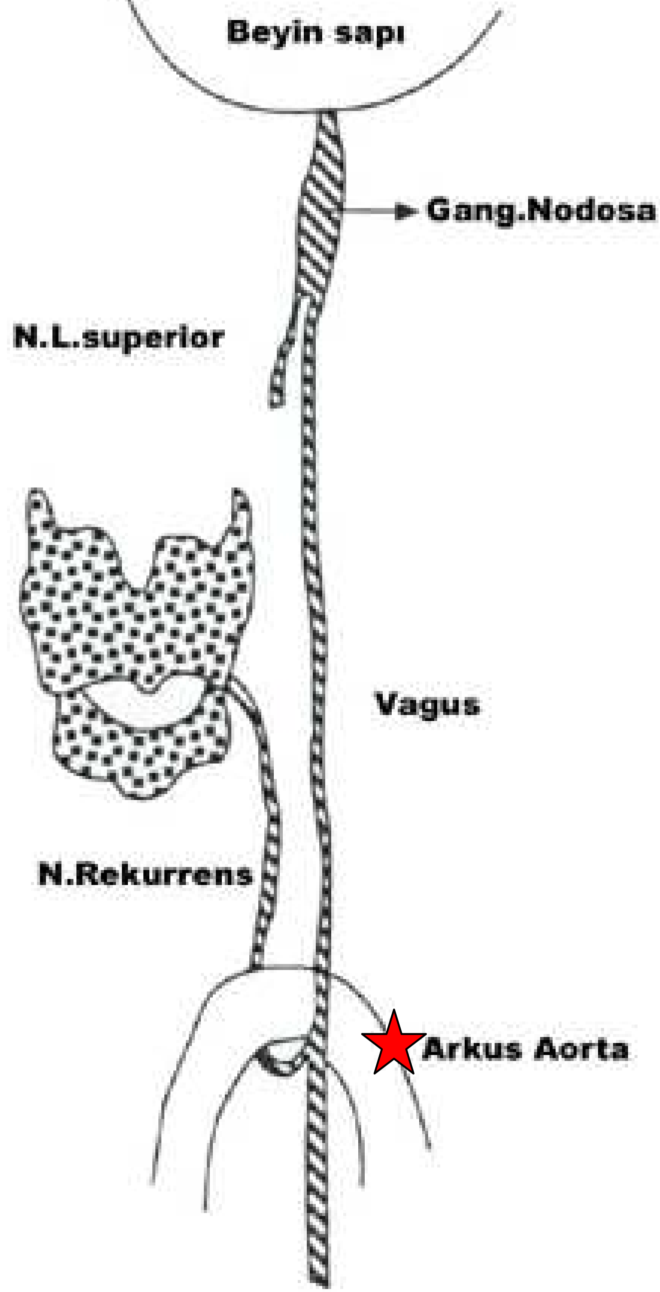
- Diyastolik basınç- 70-90 mmHg

- Hipotansiyon
- Hipertansiyon

# Baroreseptör refleks

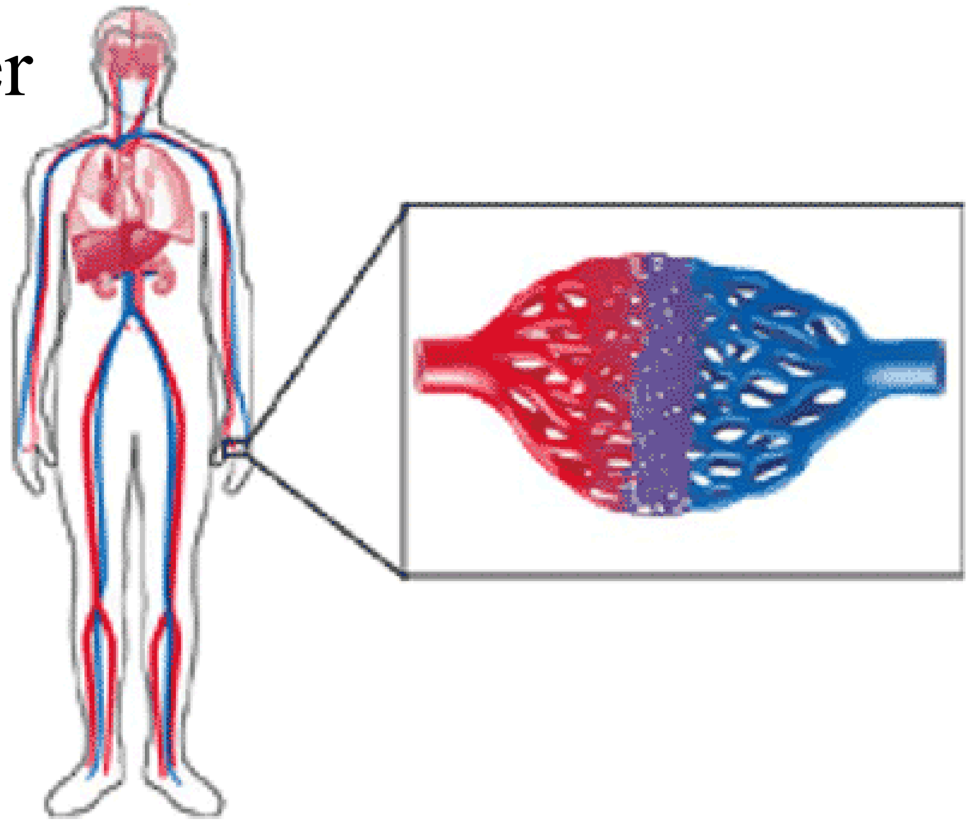
- Medulla oblongata



# Periferik kemoreseptörler

- 80 mmHg'ya düşüşle
- Arteryal –P- düşer
- Dolayısıyla $pO_2$
- Düşer
- $CO_2$ ve $H^+$ artar

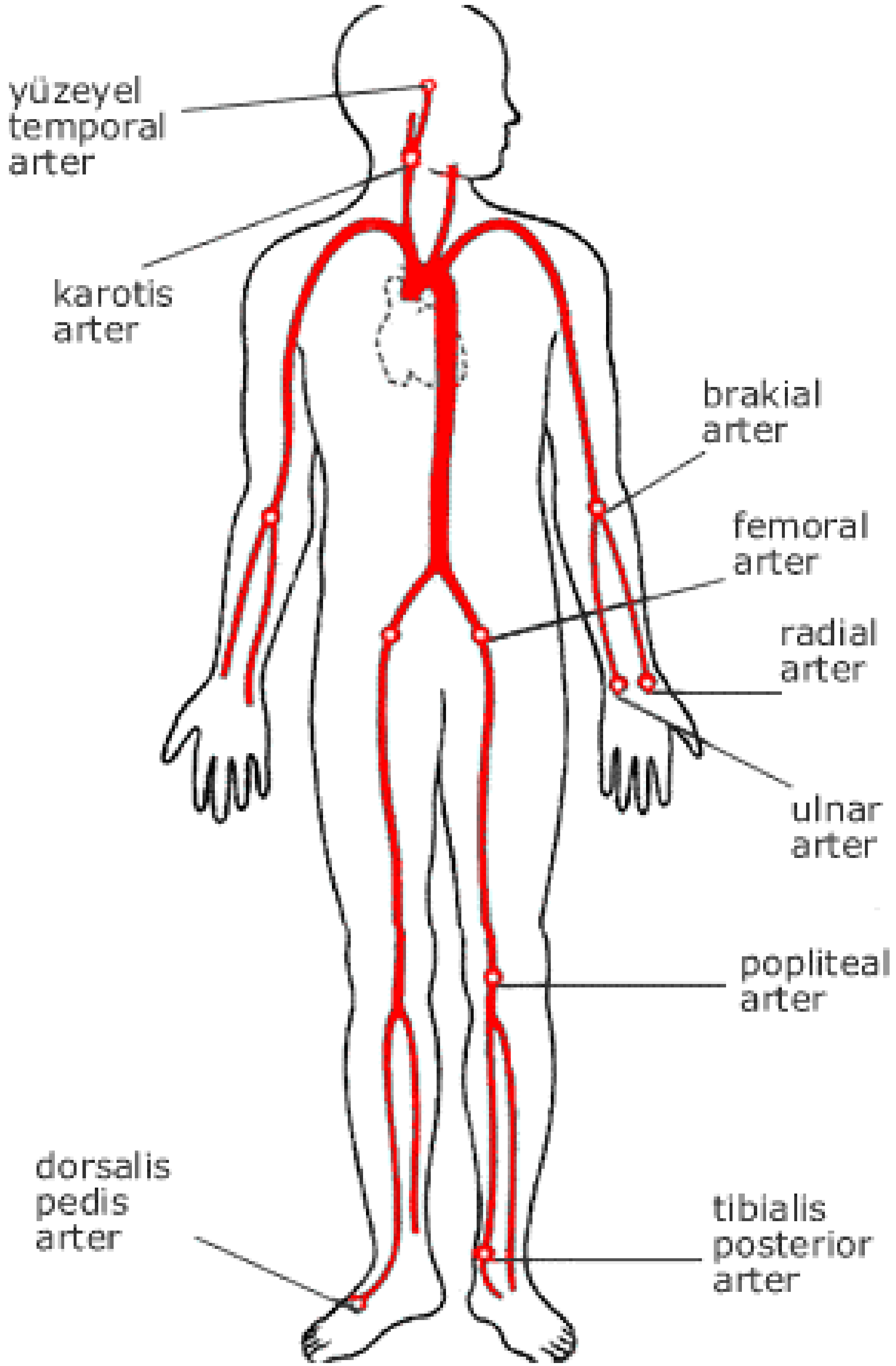


# Nabız

Aortun her sistolde 70 ml kanfırlatması-aort çeper. genişl. Ve arterlerde nabız dalgası yaratır.







yüzeyel
temporal
arter
karotis
arter
brakial
arter
femoral
arter
radial
arter
ulnar
arter
popliteal
arter
dorsalis
pedis
arter
tibialis
posterior
arter

## NABZI DEĞERLENDİRME



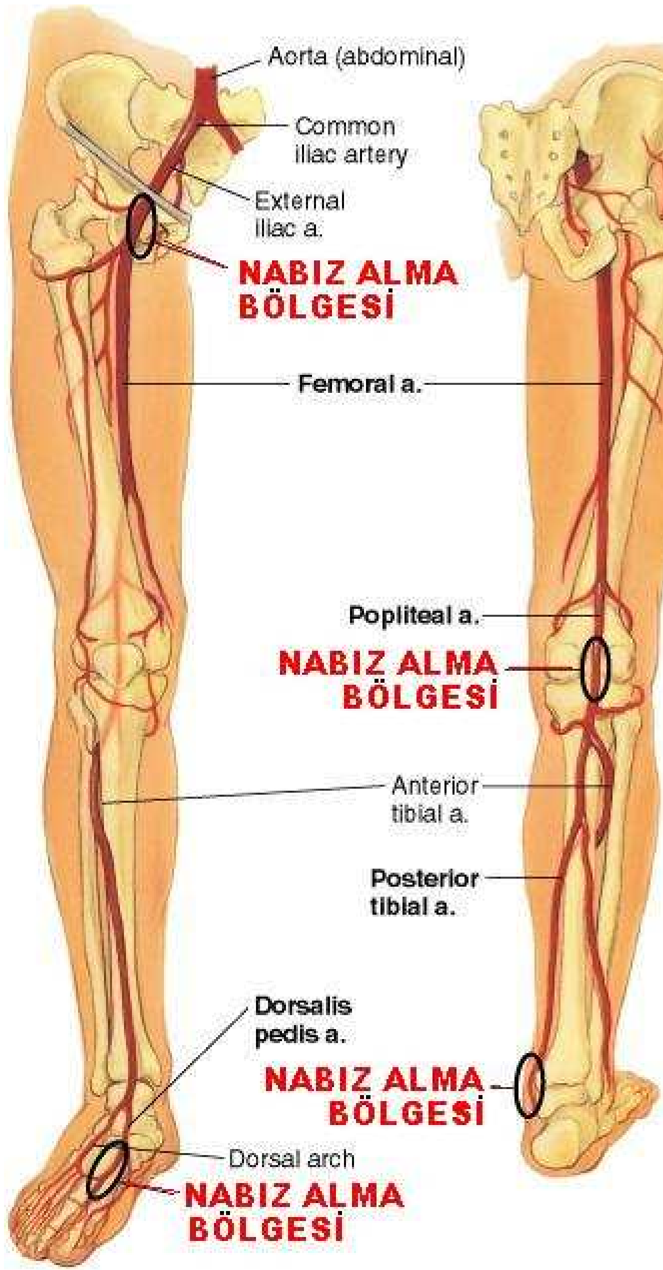
DORSALİ PEDİS NABZI



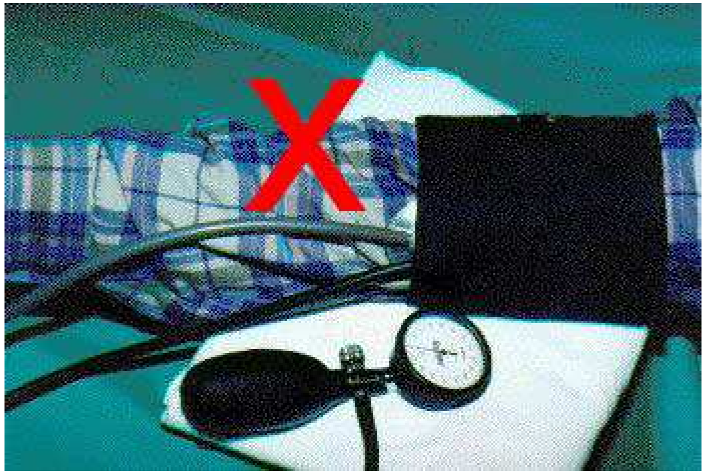
RADYAL NABIZ

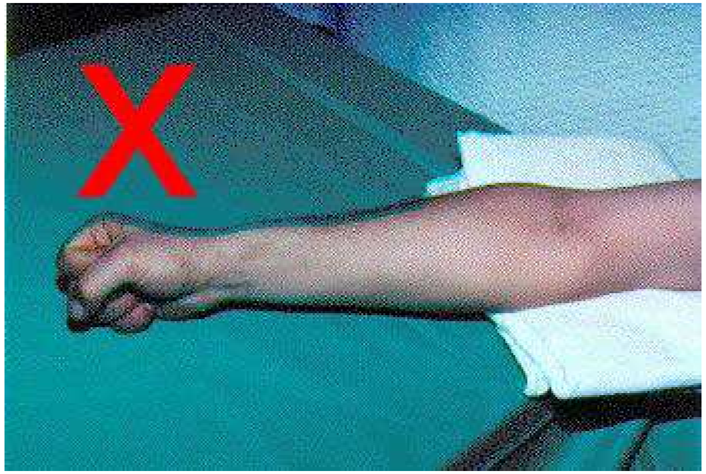


POSTERİOR TİBİALİS NABZI

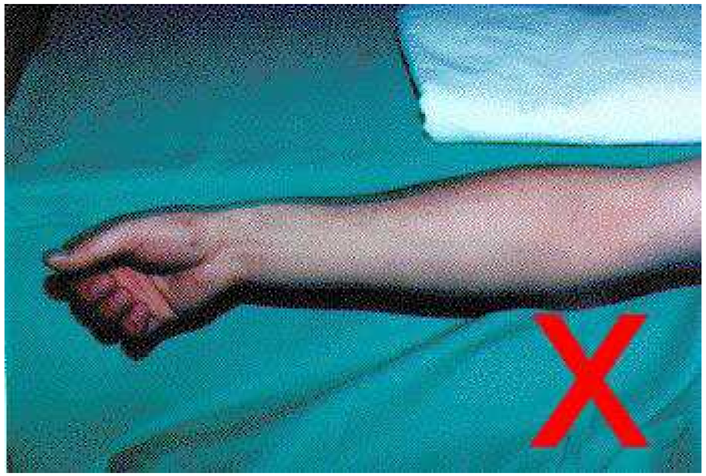



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